

REMARKS

Claims 1-49 are pending in the present application.

The rejections of Claims 1 and 2 under 35 U.S.C. §112, first paragraph (written description and enablement), are obviated by amendment.

These rejections relate to the breadth of the permissible homologs of the claimed polynucleotide of SEQ ID NO: 15 and SEQ ID NO: 17. Indeed, it is the current trend in U.S. patent practice to narrow the permissible scope of homologs. However, Applicants note that a recent decision by the U.S. PTO's Board of Patent Appeals and Interferences (*Ex parte Bandman*, **enclosed herewith**) held that claims to polypeptides and/or polynucleotides sequences that are at least 95% homologous to the disclosed sequence are adequately described and enabled when the specification describes the nucleotide and amino acid sequences. As such, Applicants have amended Claims 1 and 2 to define the scope of homologs as 1 to 10 substitution, deletion, insertion, or addition. SEQ ID NO: 15 has 337 amino acids. Therefore, a ten amino acid deletion, insertion, or addition would result in a scope of homology of 97.0% to SEQ ID NO: 15. Similarly, SEQ ID NO: 17 has 323 amino acids. Therefore, a ten amino acid deletion, insertion, or addition would result in a scope of homology of 96.9% to SEQ ID NO: 17.

Clearly if in the case of *Ex parte Bandman* the Board found claims to homologs have at least 95% homology to be described and enabled, then claims to homologs that are approximately 97% homologous to SEQ ID NO: 15 or SEQ ID NO: 17 are certain described and enabled.

Applicants request withdrawal of these grounds of rejection.

The rejections of: (a) Claim 1D under 35 U.S.C. §102(b) over Nelson et al, and (b) Claims 1D and 2F under 35 U.S.C. §102(b) over Stover et al are obviated by amendment.

Nelson et al is cited as disclosing a protein that is 95% identical to SEQ ID NO: 15.

Stover et al is cited as disclosing a protein that is 81.2% identical to SEQ ID NO: 17.

Applicants have amended to define the scope of homologs as 1 to 10 substitution, deletion, insertion, or addition. SEQ ID NO: 15 has 337 amino acids. Therefore, a ten amino acid deletion, insertion, or addition would result in a scope of homology of 97.0% to SEQ ID NO: 15. Similarly, the scope of homologs to SEQ ID NO: 17 has also been limited to 1 to 10 substitution, deletion, insertion, or addition. SEQ ID NO: 17 has 323 amino acids. Therefore, a ten amino acid deletion, insertion, or addition would result in a scope of homology of 96.9% to SEQ ID NO: 17.

In view of the present amendment, Applicants submit that Nelson et al and Stover et al fail to anticipate and/or render obvious the presently claimed invention as these references disclose sequences that do not meet the limitations of the claims invention and do not motivate the artisan of any mutations therein. Withdrawal of this ground of rejection is requested.

The rejection of Claims 1-4, 11-14, and 19-22 under 35 U.S.C. §112, second paragraph, is obviated by amendment.

Applicants submit that the claims have been amended to address the Examiner's specific criticisms. Specifically, the term "inversion" has been deleted from the claims. The term "hybridization conditions" has been amended to include specific conditions. Claims 19-22 have been rewritten. And, the identity of the transformed cell and the relationship between the host cell and the claimed DNA is further defined in the claims and further specification by the specification.

Applicants request withdrawal of this ground of rejection.

The rejection of Claims 1-4 under 35 U.S.C. §101 is obviated by amendment. Claims 1-4 have been amended to specify that the claimed protein or DNA are “isolated.” As such, the claims clearly require the hands of man and, therefore, this ground of rejection should no longer be relevant.

Withdrawal of this ground of rejection is requested.

The objection to Claims 4 and 5 as containing the term “base sequence” and to Claims 11-14 as containing the phrase “in a state where the DNA is able to express” are obviated by amendment. Applicants have amended the claims herein to specifically address these criticisms. Withdrawal of this ground of objection is requested.

The objection to the specification as failing to include a reference to prior applications is obviated by amendment. Applicants have added the cross-reference to related applications on page 1 of the specification. As such, this objection is believed to be moot.

Withdrawal of this ground of objection is requested.

Applicants submit that the present application is now in condition for allowance.

Early notification of such action is earnestly solicited.

Respectfully submitted,

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